

TABLE OF CONTENTS

AASHTO SECTION

CHAPTER 1: GENERAL PROVISIONS

<	Constants and Conversion Factors	195
C	<i>Classification of Soils</i>	<i>M-145</i>

CHAPTER 2: MATERIALS

Soils and Aggregate Tests

<	Rapid Moisture Content Determination of Aggregates and Non-Plastic Soils	919
<	Determination of Rounded Particles on Coarse Aggregate	929
<	Determination of Thin or Elongated Particles in Coarse Aggregate	930
<	Elutriation Vessel Method For Determining Amount of Material Finer Than No. 200 Sieve in Soils and Aggregate	935
C	<i>Material Finer than No. 200 Sieve In Mineral Aggregates by Washing</i>	<i>T-11</i>
C	<i>Unit Weight and Voids in Aggregate</i>	<i>T-19</i>
C	<i>Organic Impurities in Fine Aggregates for Concrete</i>	<i>T-21</i>
C	<i>Obtaining and Testing Drilled Cores and Sawed Beams of Concrete</i>	<i>T-24</i>
C	<i>Sieve Analysis of Fine and Coarse Aggregates</i>	<i>T-27</i>
C	<i>Specific Gravity and Absorption of Fine Aggregates</i>	<i>T-84</i>
C	<i>Specific Gravity and Absorption of Coarse Aggregates</i>	<i>T-85</i>
C	<i>Dry Preparation of Disturbed Soil and Soil Aggregate Samples for Test</i>	<i>T-87</i>
C	<i>Determining the Liquid Limit of Soils</i>	<i>T-89</i>
C	<i>Particle Size Analysis of Soils</i>	<i>T-88</i>
C	<i>Determining the Plastic Index and Plasticity Index of Soils</i>	<i>T-90</i>
C	<i>Resistance to Abrasion of Small-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine</i>	<i>T-96</i>
C	<i>Moisture-Density Relations of Soils Using a 5.5 lb Rammer</i>	

TABLE OF CONTENTS

	AASHTO	SECTION
	<i>And a 12 in. Drop</i>	T-99 D
C	<i>Specific Gravity of Soils</i>	T-100
C	<i>Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate</i>	T-104
C	<i>Clay Lumps and Friable Particle In Aggregate</i>	T-112
C	<i>Plastic Fines in Graded Aggregates and Soils by Use of the Sand Equivalent Test</i>	T-176
C	<i>Moisture-Density Relations of Soils Using a 10-lb Rammer And an 18-in. Drop</i>	T-180D
C	<i>Density of Soil In-Place by the Sand-Cone Method</i>	T-191
C	<i>California Bearing Ratio</i>	T-193
C	<i>Aggregate Coating</i>	T-195
C	<i>Unconfined Compressive Strength of Cohesive Soil</i>	T-208
C	<i>Permeability of Granular Soils (Constant Heat)</i>	T-215
C	<i>One-Dimensional Consolidation Properties of Soils</i>	T-216
C	<i>Strength Parameters of Soils by Triaxial Compression</i>	T-234
C	<i>Direct Shear Test of Soils under Consolidated Drain Conditions</i>	T-236
C	<i>Frictional Properties of Paved Surfaces Using a Full-Scall Tire</i>	T-242
C	<i>Total Moisture Content of Aggregate by Drying</i>	T-255
C	<i>Laboratory Determination of Moisture Content of Soils</i>	T-265
C	<i>Surface Frictional Properties Using the British Pendulum Tester</i>	T-278
C	<i>Accelerated Polishing of Aggregate Using the British Wheel</i>	T-279C
C	<i>Reducing Field Samples of Aggregate to Testing Size</i>	T-283
C	<i>Determining Minimum Laboratory Soil Resistivity</i>	T-288
C	<i>Determining Ph of Soil for Use in Corrosion Testing</i>	T-289
C	<i>Determining Water Soluble Sulfate Ion Content in Soil</i>	T-290
C	<i>Determining Water Soluble Chloride Ion</i>	

TABLE OF CONTENTS

	<i>AASHTO</i>	SECTION
	<i>Content in Soil</i>	<i>T-291</i>
<i>C</i>	<i>In-Place Density and Moisture Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)</i>	<i>T-310</i>
<i>C</i>	<i>Flat and Elongated Particles in Coarse Aggregate</i>	<i>D-4791 (ASTM)</i>
<i>C</i>	<i>Percentage of Fractured Particles in Coarse Aggregate</i>	<i>D-5821 (ASTM)</i>
<i>C</i>	<i>Uncompacted Void Content of Fine Aggregate</i>	<i>TP33</i>

Bitumen-Aggregate Tests

<	Marshall Method of Mix Design for Large Aggregate	941
<	Dynamic Stripping Test of Bitumen-Aggregate Mixtures	945
<	Extraction of Bitumen from Paving Mixtures Using a Vacuum Extractor	946
<	Surface Treatment Design	950
<	Open Graded Surface Coarse	954
<	Price Reduction Formulas for Non Specification Bituminous Materials	955
<	Resistance of Compacted Bituminous Mixture to Moisture Induced Damage	957
<	Standard Test Method for Determining Rutting Susceptibility Using the Asphalt Pavement Analyzer	958
<	Guidelines for Superpave Volumetric Mix Design	960
<	Cold Bend Determination of Hot-applied Bituminous Concrete Crack Sealants	967
<i>C</i>	<i>Mechanical Analysis of Extracted Aggregate</i>	<i>T-30</i>
<i>C</i>	<i>Moisture of Volatile Distillates in Bituminous Paving Mixtures</i>	<i>T-110</i>
<i>C</i>	<i>Quantitative Extraction of Bitumen from Paving Mixtures</i>	<i>T-164A</i>
<i>C</i>	<i>Bulk Specific Gravity of Compacted Bituminous Mixtures Using Saturated Surface-Dry Specimens</i>	<i>T-166</i>
<i>C</i>	<i>Sampling Bituminous Paving Mixtures</i>	<i>T-168</i>

TABLE OF CONTENTS

	AASHTO	SECTION
C	<i>Recovery of Asphalt from Solution by Abson Method</i>	<i>T-170</i>
C	<i>Maximum Specific Gravity of Bituminous Paving Mixtures</i>	<i>T-209</i>
C	<i>Determining Degree of Pavement Compaction of Bituminous Mixtures</i>	<i>T-230</i>
C	<i>Resistance to Plastic Flow of Bituminous Mixtures using Marshall Apparatus</i>	<i>T-245</i>
C	<i>Percent Air Voids in Compaction Dense and Open Bituminous Paving Mixtures</i>	<i>T-269</i>
C	<i>Bulk Specific Gravity of Compacted Bituminous Mixtures Using Paraffin-coated Specimens</i>	<i>T-275</i>
C	<i>Asphaltic Cement Content of Asphalt Concrete Mixtures by the Nuclear Method</i>	<i>T-287</i>
C	<i>Standard Test Method for Density of Bituminous Concrete In Place by Nuclear Methods</i>	<i>D-2950 (ASTM)</i>
C	<i>Standard Practice for Short and Long Term Aging of Hot Mix Asphalt</i>	<i>PP2</i>
C	<i>Volumetric Analysis of Compacted Hot Mix Asphalt</i>	<i>PP19</i>
C	<i>Quantitative Extraction and Recovery of Asphalt Binder from HMA</i>	<i>TP2</i>
C	<i>Density of HMA Specimens by means of the SHRP Gyratory Compactor</i>	<i>T311</i>
C	<i>Volumetric Mix Design</i>	<i>MP -2</i>
C	<i>Designing Superpave HMA</i>	<i>PP -28</i>
C	<i>Asphalt Content of Hot Mix Asphalt by the Ignition Method</i>	<i>D-6307 (ASTM)</i>
C	<i>Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Saturated Surface-Dry Specimens . .</i>	<i>D-2726 (ASTM)</i>
C	<i>Test Method for Thickness or Height of Compacted Bituminous Paving Mixture Specimens</i>	<i>D-3549 (ASTM)</i>
C	<i>Practice for Random Sampling of Construction Materials</i>	<i>D-3665 (ASTM)</i>
C	<i>Standard Specification for Minimum Requirements for Agencies Testing and Inspecting Bituminous Paving Materials</i>	<i>D3666 (ASTM)</i>
C	<i>Standard Practice for Quality Control Systems for Organizations Producing and Applying Bituminous Paving Material</i>	<i>D4561 (ASTM)</i>

TABLE OF CONTENTS

	AASHTO	SECTION
C	<i>Standard Practice for Organizations Engaged in the Certification of Personnel Testing and Inspecting Bituminous Paving Materials</i>	<i>D5506 (ASTM)</i>
C	<i>Standard Test Method for Asphalt Content of Hot-Mix Asphalt by Ignition Method</i>	<i>D6307 (ASTM)</i>
C	<i>Standard Practice for Sampling Bituminous Paving Mixtures</i>	<i>D979 (ASTM)</i>
C	<i>Test Method for Measuring Pavement Roughness Using a Profilograph</i>	<i>E-1274 (ASTM)</i>

Asphalt Binder Tests

C	<i>Determining the Flexural Creep Stiffness of Asphalt Binder Using the Bending Beam Rheometer (BBR)</i>	<i>TP1</i>
C	<i>Determining the Fracture Properties of Asphalt Binder in Direct Tension (DT)</i>	<i>TP3</i>
	note: Replaced 8-966	
C	<i>Determining the Rheological Properties of Asphalt Binder Using a Dynamic Shear Rheometer (DSR)</i>	<i>TP5</i>
C	<i>Viscosity Determinations of Unfilled Asphalt Using the Brookfield Thermosel Apparatus</i>	<i>TP48</i>
C	<i>Accelerated Aging of Asphalt Binder using a Pressurized Aging Vessel (PAV)</i>	<i>PP1</i>
C	<i>Grading or Verifying the Performance Grade of an Asphalt Binder</i>	<i>PP6</i>

Concrete Tests

<	Guidelines for Portland Cement Concrete Mix Design	974
C	<i>Ready-Mixed Concrete</i>	<i>M-157 A1</i>
C	<i>Compressive Strength of Cylindrical Concrete Specimens</i>	<i>T-22</i>
C	<i>Making and Curing Concrete Test Specimens in the Field</i>	<i>T-23</i>
C	<i>Quality of Water to be Used in Concrete</i>	<i>T-26</i>
C	<i>Flexural Strength of Concrete (Using Simple Beam with Third-Point Loading)</i>	<i>T-97</i>
C	<i>Slump of Hydraulic Cement Concrete</i>	<i>T-119</i>
C	<i>Weight per Cubic Foot, Yield, and Air Content of Concrete</i>	<i>T-121</i>
C	<i>Air Content of Freshly Mixed Concrete By the Pressure Method</i>	<i>T-152</i>
C	<i>Air Content of Freshly Mixed Concrete</i>	

TABLE OF CONTENTS

	<i>AASHTO</i>	SECTION
<i>By the Chace Indicator</i>	<i>T-199</i>	

Sampling

<	Random Sampling and Testing	981
<	Referee Testing	982
<	Independent Assurance Activities	983
<	Sampling Methods	984
<	Sample Reduction Methods	985

<i>C</i>	<i>Sampling Freshly Mixed Concrete</i>	<i>T-141</i>
----------	----------------------------------------------	--------------

Pavement Design and Evaluation

<	Method of Test for Hamburg Wheel Track Testing of Compacted Bituminous Mixtures	990
<	Procedure for Operating and Evaluating Results From a Profilograph	995

CHAPTER 3: ECONOMIC ANALYSIS

Life Cycle Analysis

<	Life Cycle Analysis - Overview	1000
<	Engineering Economics	1001
<	Cost Components	1002
<	Procedures	1003
<	Summary	1004

Appendix A

Appendix B

TERMS AND DEFINITIONS